

ABSTRACT OF THE DISCLOSURE

A starter/battery charger, which is coupled to an internal-combustion engine, operates as a starting motor for starting the engine and also operates as a charging generator for charging a battery after the engine has been started. Control unit controls the rotation speed of the engine by performing a driving control and a braking control on the starter/battery charger. The control unit carries out a judgement that a self-ignition state has been established in the engine depends on one of the rotation speed of the engine and a variation rate of the rotation speed has exceeded a prescribed value. The control unit switches from the driving control to the braking control upon the judgement, thereby preventing the overshoot in the rotation speed of the engine.